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EXAMINER
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ART UNIT	PAPER NUMBER
2608	3

DATE MAILED: 09/09/92

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☒ Notice re Patent Drawing, PTO-948.
3. ☒ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, Form PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-13 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-13 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

1. Claims 1-4, 6-10 and 13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 13-17, the recitation "calculating a time after vehicle exit from the detection area based upon a change in the measurement value during a time period subsequent to entry of a vehicle into the detection area" is vague and indefinite. What is the "calculating a time" used for? On lines 18-19, "the signal" has no antecedent basis.

In claim 2, lines 10-11 the recitation "calculating the time after vehicle exit based upon the vehicle speed" is vague and indefinite. What is the use of the calculated time after vehicle exit?

In claim 6, line 15, the recitation "comparing the sample measurements taken" is vague and indefinite. What is the sample measurements taken compared with? On lines 18-21, the recitation "adjusting the reference value to the average sample value if comparing shows the sample measurements are consistent with one another" is vague and indefinite. What is it meant by "consistent with one another"?

In claim 7, lines 12-15 the recitation "Whether a change in measured inductance of the inductive sensor is due to a factor which affects inductance of the inductive sensor" in unclear,

vague and indefinite.

In claim 8, lines 18-22, the recitation "determining, based upon the comparing, ...to the inductive sensor" is unclear, vague and indefinite.

In claim 9, lines 1-2, the recitation "A method for identifying mechanical difficulties associated with a vehicle detector" is vague and indefinite. What is the "mechanical difficulties"? On lines 11-14, the recitation "identifying ...predetermined range"is vague and indefinite. What is the "mechanical difficulties"?

In claim 10, lines 6-7, the recitation "caused by mechanical difficulties which require maintenance activity to correct" is vague and indefinite. What is the "mechanical difficulties"? On lines 17-19, the recitation "a rate which is indicative of mechanical difficulties" is vague and indefinite. On lines 20-21, the recitation "providing a signal indicating existence of mechanical difficulties", is vague and indefinite.

In claim 13, lines 11-12, the recitation, "estimating maximum drift rates in the measurement values" is vague and indefinite. On lines 16-17, the recitation "a time period defined by the estimated maximum drift rates" is vague and indefinite. What is the "estimated maximum drift rates"?

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

3. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 11, and 12 are rejected under 35 U.S.C. § 102(b) as being anticipated by Koerner et al ('339).

As to claim 1, Koerner et al ('339) discloses a vehicle detector; see (figure 1) in which vehicles are detected by an inductive sensor (loops 1-4) which exhibits a change in inductance in response to presence of a vehicle in a detection area, a method comprising; monitoring a signal representative of inductance of an inductive sensor; see (column 1, lines 29-36), detecting entry of a vehicle into a detection area associated with the inductive sensor; see (column 4, lines 12-20), calculating a time after vehicle exit from the detection area, see column 1, lines 28-58 and column 6, lines 19-32, producing a sample value based upon the signal after the time of vehicle exit; comparing a reference value and the sample value; see (column 6, lines 23-29), and adjusting the reference value based upon the comparison; see column 6, lines 30-32 and column 1, lines 55-58).

As to claim 11, Koerner et al ('339) discloses a method of adjusting a reference value of a vehicle detector which compares a measured value derived from an inductive sensor to a reference value, the method comprising; calculating a measurement period;

see column 6, lines 14-25, measuring a change in the measured value during the measurement period, comparing the change in the measured value to a threshold; see column 6, lines 23-29 and producing a new reference value based upon the change in measured value and the threshold change; see (column 6, lines 30-32) and see (column 1, lines 54-56).

As to claim 12, Koerner et al ('339) discloses wherein the new reference value is produced by adding the change in the measured value to the reference value; see (column 1, lines 37-65).

5. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

6. Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Koerner et al ('339).

As to claim 5, Koerner et al discloses a method of checking

a reference value used in an inductive sensor vehicle detector, which comprises; measuring frequency of an oscillator signal to produce a measurement value which is a function of inductance of the inductive sensor; see (column 4, lines 12-36), indicating presence of a vehicle if a difference between the measurement value and reference value exceeds a threshold; see column 17, lines 35-68, measuring vehicle speed of a vehicle passing through a sensor area; (Loops 1-4), determining a time based upon the vehicle speed so as to have substantially no influence on the frequency (54) and adjusting the reference value; see column 6, lines 30-32. Koerner et al does not teach taking a sample measurement of the frequency of the oscillator at the time that was determined to be sufficient to allow the vehicle to exit the sensor area and to adjust the reference value based upon the sample measurement. However, it would have been obvious to one of ordinarily skill in the art to take a sample measurement of the frequency of the oscillator at the time that was determined to be sufficient to allow the vehicle to exit the sensor area and based upon the sample measurement adjust the reference value because a more accurate reference value can be generated based upon the sample measurement of the frequency of the oscillator.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Eshraghian et al teaches a vehicle detection system.

Brickner teaches a self-adjusting vehicle detector system having a loop detector (20).

Updegraff teaches a sensing loop detector as a vehicle detector and a threshold responsive trigger circuit.

Drebinger et al teaches measuring loop, oscillator circuit and an analyses device.

Weiss teaches induction loop to determine speed and vehicle type from inductance change.

8. Any inquiry concerning this communication should be directed to Dov Popovici at telephone number (703) 305-4811.

D.P

D.POPOVICI/TC
September 04, 1992
August 25, 1992

JIN F. NG
SUPERVISORY PATENT EXAMINER
GROUP 2600